

**ATTACHMENT “A”-PERMIT APPLICATION  
SUMMARY FORM**

## Division for Air Quality

### PERMIT APPLICATION SUMMARY FORM

Completed by: Gaurav Shil

#### GENERAL INFORMATION:

Name: Polymer Partners  
Address: 1450 Commonwealth Drive  
Henderson, Kentucky 42420  
Date application received: March 8, 2002  
SIC/Source description: 3087/custom compounding of purchased plastic resins  
Plant I. D. 021-101-00125  
Application log number: 54498  
Permit number: F-02-xxx

#### APPLICATION TYPE/PERMIT ACTIVITY:

<input type="checkbox"/> Initial issuance	<input type="checkbox"/> General permit
<input type="checkbox"/> Permit modification	<input checked="" type="checkbox"/> Conditional major
__Administrative	<input type="checkbox"/> Title V
__Minor	<input type="checkbox"/> Synthetic minor
__Significant	<input type="checkbox"/> Operating
<input checked="" type="checkbox"/> Permit renewal	<input type="checkbox"/> Construction/operating

#### COMPLIANCE SUMMARY:

☐ Source is out of compliance                      ☐ Compliance schedule included  
☒ Compliance certification signed

#### APPLICABLE REQUIREMENTS LIST:

<input type="checkbox"/> NSR	<input type="checkbox"/> NSPS	<input type="checkbox"/> SIP
<input type="checkbox"/> PSD	<input type="checkbox"/> NESHAPS	<input type="checkbox"/> Other
<input type="checkbox"/> Netted out of PSD/NSR	<input type="checkbox"/> Not major modification per 401 KAR 51:017, 1(23)(b) or 51:052,1(14)(b)	

#### MISCELLANEOUS:

☐ Acid rain source  
☐ Source subject to 112(r)  
☒ Source applied for federally enforceable emissions cap  
☐ Source provided terms for alternative operating scenarios  
☐ Source subject to a MACT standard  
☐ Source requested case-by-case 112(g) or (j) determination  
☐ Application proposes new control technology  
☒ Certified by responsible official  
☒ Diagrams or drawings included  
☒ Confidential business information (CBI) submitted in application  
☐ Pollution Prevention Measures  
☐ Area is non-attainment (list pollutants):

#### EMISSIONS SUMMARY:

Pollutant	Actual (tpy)	Potential (tpy)
PM/PM10*	17.14	619.68
VOCs**	60.98	107.27
Formaldehyde	1.17E-03	3.63E-03
Acrolein	1.48E-04	5.19E-04
Propionaldehyde	2.66E-04	5.19E-04
MEK	3.11E-04	5.19E-04
Acrylic acid	3.60E-04	5.61E-04
Acetaldehyde	3.39E+00	3.37E+01
Xylene	4.53E-02	2.80E-01
Cumene	4.97E-03	5.79E-02
Methylene chloride	1.06E-01	6.66E-01
Phenol	1.33E+00	1.66E-01
Phthalic anhydride	3.21E-03	1.40E-01
Biphenyl	3.21E-03	1.40E-01
Benzene	2.65E-03	1.40E-01
Styrene dimer isomers	5.23E-02	5.61E-01
Toluene	3.55E-02	2.93E-01
Styrene	6.90E-01	1.03E+01
Ethyl benzene	1.06E-01	1.76E+00
Acrylonitrile	1.03E-02	2.56E-01
Caprolactum	4.24E-01	1.86E-01
Other HAPs	2.12E-01	4.68E+00
Source Wide Total HAPS~	6.42E+00	5.34E+01

\* Allowable particulate emissions based on Appendix A to 401 KAR 59:010

~ An allowable of 9.0 ton/yr. single HAP and an allowable of 22.5 tons/year of combined HAPS

\*\* An allowable of 90 ton/yr of VOCs

### **SOURCE PROCESS DESCRIPTION:**

The Polymer Partners (previously named Clariant) is located at Henderson, Kentucky. They manufacture black plastic color concentrates through a process of compounding various polymer resins with carbon black, calcium carbonate and/or other filler materials.

The source is currently classified as Conditional Major. The source has applied for conditional major under 401 KAR 52:030, federally-enforceable permits.

The source has pneumatic feeding of raw materials from silos and dump stations equipped to handle super sacks of carbon black and plastic resins into hoppers on the compounding lines. Thermal processes include the heating of the polymer resin and additives to product specific temperature and mixing in the compounding line.

### **COMMENTS:**

The changes made with this permit renewal application are: the addition of two additive

stations for the #6 and #9 FCM mixers, the removal of the 300 cu. ft. ribbon blender, the removal of the ZSE-50 twin screw line, the replacement of the Batenfil lab molding machine with a Boy unit lab molding machine and the addition of a cook off oven as an insignificant activity.

In process room #2 of the manufacturing facility, dump stations, additive stations, feed stations and process lines are enclosed within Torit modules for the particulate control in conjunction with a Torit/Day HPT 80 baghouse system as secondary control of particulates. In process room #1, dump stations, feed stations and process line emissions and the 100 cu. ft. ribbon blender are captured/collected by a Torit/Day HPT 80 baghouse system. Outdoor silos, blending silos and pneumatic system are equipped with baghouse system for particulate control. Particulate emissions not captured and controlled by modules are captured and controlled by baghouse collection unit.

State regulation 401 KAR 59:010, New process operations, applies to this source because these are process operations that were commenced after July 2, 1975.

State regulation 401 KAR 52:030 Federally-enforceable permits for non-major sources applicable to this source.

CRI D EF V5.1A AP 42 Volume 1: Stationary point sources, Fifth edition, Section 6.6.2 Plastics was used to estimate emission factors for uncontrolled plastic resins during different processing operations and then engineering estimate based on maximum amount of plastics processed was used to calculate emission factors for controlled plastic resin emissions.

Engineering Estimate using maximum amount of carbon black that can be fed into the different emission points was used to estimate emission factors for controlled carbon black emissions.

#### **EMISSION AND OPERATING CAPS DESCRIPTION:**

The actual emissions of HAPs for a single pollutant shall not exceed 9.0 tons per year. The combined emissions for HAPs shall not exceed 22.5 tons per year. The actual VOC emissions shall not exceed 90.0 tons per year. Emission limitations for particulate matter are pursuant to regulation 401 KAR 59:010, Section 3 (2). These annual limitations shall not be exceeded during any consecutive twelve months period for the entire source.

#### **CREDIBLE EVIDENCE:**

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has not incorporated these provisions in its air quality regulations.